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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/549,883

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Marion Kornelia Matters-Kammerer

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NXP, B.V.

NXP INTELLECTUAL PROPERTY DEPARTMENT

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EXAMINER

LEE, BENNY T

ART UNIT

PAPER NUMBER

2817

NOTIFICATION DATE

DELIVERY MODE

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ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ip.department.us@nxp.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/549,883	<b>Applicant(s)</b> MATTERS-KAMMERER, MARION KORNELIA	
	<b>Examiner</b> Benny Lee	<b>Art Unit</b> 2817	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 03 March 2008.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1,2,6-8 and 11-21 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 11-16; 17-21 is/are allowed.
- 6) ☒ Claim(s) 1,2 and 8 is/are rejected.
- 7) ☒ Claim(s) 6 and 7 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date: _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                        | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date: _____ | 6) <input type="checkbox"/> Other: _____  |

The disclosure is objected to because of the following informalities: Note that subheadings still need to be provided to delineate the different sections of the specification. Page 3, line 16, note that --  $d_{\text{medium}}$  -- should be inserted between “layer” & “having” for clarity of description. Page 5, lines 5, 6, note that for the description of “Fig. 3”, such description needs further elaboration as to the specific features depicted in that drawing figure. Appropriate correction is required.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 2, 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Komazaki et al in view of Saitoh et al (both of record).

Komazaki et al {e.g. Figs. 3(a) – Fig. 3(d)} discloses an LC filter configuration comprising a multi-layer stack of dielectric layers formed by a laminated process, including a dielectric block (e.g. 36-n) and a dielectric layer (i.e. dielectric plate D3) disposed underneath (i.e. below) the dielectric block (e.g. 36-n). Note that since the dielectric plate is larger than the dielectric block, the dielectric plate inherently “surrounds” the extent of the dielectric block. Note that Komazaki et al discloses that the dielectric block (e.g. 36-n) is comprised of a ceramic material having a dielectric constant of approximately 75 (e.g. see column 4, lines 51-53), and as such would have had a higher dielectric constant than that of the surrounding dielectric plate, which is approximately 4.5, as described at column 3, lines 57-60. It should be noted that the dielectric block (e.g. 36-n) includes strip-lines (e.g. 38-n) disposed on a surface thereof, such as

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to realize a metallization structure. Note that as described at column 2, lines 63-68, the metallization structure defines a filter, which may be comprised of either of a  $\frac{1}{4}$  or  $\frac{1}{2}$  wavelength resonators. Moreover, as known by those of ordinary skill in the art, such resonators inherently function as a “coil” (i.e. by virtue of the distributed inductance along the metallization structure) and a capacitor electrode (i.e. as formed by the metallization structure relative to an underlying ground plane (e.g. 12) through the thickness of the dielectric block). Note that in a variation of the Fig. 3(a) – 3(d) embodiment, Fig. 4(a) additionally discloses the addition of a separate dielectric plate (40) which is approximately the same size as the dielectric block covered by a plating (e.g. 40a functioning as an upper ground plane), e.g. as described at column 7, lines 50-57, such as to provide the effect of reduction in the loss of the filter. However, Komazaki et al differs from the claimed invention in that Komazaki et al does not provide explicit dimensions of the width of the metallization structure relative to the distance to the respective lower and upper ground planes, such as recited in claims 1 & 2, respectively.

Saitoh et al (e.g. Figs. 4, 5) discloses a metallization structure (e.g. 21, 22, 31, 32) disposed on a dielectric plate (1) having a ground conductor (7) disposed on an opposite surface thereof to thereby function as a band pass filter. Note in particular that since the metallization structures (31, 32) are described as “open ended conductors”, such an arrangement corresponds to a  $\frac{1}{2}$  wavelength type resonator filter. Furthermore, note that as described at column 3, lines 39-47, the metallization structures (31, 32) have a width dimension (i.e.  $l_3$ ) which is 5 mm and a dielectric plate thickness of 0.8 mm, thereby providing a width to thickness ratio of (5mm/0.8mm), thereby yielding a ratio which is greater than 6.

Accordingly, it would have been obvious in view of the references, taken as a whole, to have substituted the band pass filter structure taught by Saitoh et al in place of the filter (36-n) of Komazaki et al, as to have provided the required width to thickness ratio which is greater than 3. Such a modification would have been considered an obvious substitution of art recognized equivalent filter structures from the same field of endeavor (i.e. the filter of each reference is formed on a dielectric plate over a ground plane), thereby suggesting the obviousness of such a modification. Note that, in addition to the indicated width to thickness ratio, an obvious consequence of such a modification would have resulted in the dielectric constant of the filter dielectric being necessarily higher than that of the underlying dielectric plate, as to be consistent with the teaching of Komazaki et al. With respect to the limitations of claim 2, note that as an obvious consequence of the modification using the Saitoh et al filter, such a modified filter would have necessarily have included the separate dielectric plate (40) with ground plane (40a) disposed over the filter as to have provided the benefit of reduce losses, such as taught by Komazaki et al. Furthermore, since the separate dielectric plate is described to be the same size as the filter block, then obviously, it would have the same thickness as that of the filter block, and thus it would likewise have the same width to thickness ratio as that of the modified filter, thereby meeting the limitations recited in claim 2.

Applicant's arguments filed 3 March 2008 have been fully considered but they are not persuasive.

With respect to the objection regarding providing sub-headings, applicant's comments regarding the voluntary nature of such subheadings have been noted. Nonetheless, the examiner believes that by providing subheadings, which delineate the specification, the resultant

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specification would be in a more suitable form, should this application mature into a patent.

Applicant is again urged to consider adding subheadings to the specification.

Regarding the prior art rejection, applicants' have asserted that the Office action has failed to show the claimed limitation of the "metallization structure" having "a capacitor electrode and a line that acts as a coil" and that the "capacitor" and "line" are "arranged in a common plane". Applicant's further argues that the Office action fails to provide support for the above noted claim limitation and further asserts that the prior art reference fails to identify any feature corresponding to the "capacitor electrode" and "line acting as a coil". Furthermore, applicant's have argued that the mere assertion of inherency by the examiner of these claimed features (i.e. capacitor electrode, line acting as a coil) is unsupported by the teaching in Komazaki, since Komazaki fails to describe any physical feature corresponding to the claimed features.

In response, applicant's arguments have been considered, but have been found unpersuasive for the following reasons: Contrary to applicant's arguments, the examiner has indeed establish in the above rejection what features correspond to the "capacitor electrode" and "line acting as a coil", respectively. As described in the above rejection, Komazaki set forth a  $\frac{1}{4}$  and  $\frac{1}{2}$  wavelength resonator defined by a metallization structure, where such a metallization structure overlies a ground plane (e.g. 12). While Komazaki does not explicitly describe this structure as a "capacitor electrode" and a "line acting as a coil", those of ordinary skill in the art would have recognized that such features are intrinsically associated with such a metallization structure. In particular, as known to those of ordinary skill in the art, a metallization structure spaced from a ground plane inherently defines a capacitance there between (i.e. the metallization

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structure and the underlying ground plane inherently define plates or electrodes of a capacitor across which an intrinsic capacitance exists). Thus it stands to reason that the resonator metallization structure and the underlying ground plane define the “capacitor electrode”. Similarly, as known to those of ordinary skill in the art, the metallization structure intrinsically contains inductance properties associated with the conductive pattern and thus is collectively defines an inductive characteristic, thereby causing such a metallization structure or line as to function as a coil. Therefore, while the features in questions may not have been explicitly described in the prior art reference, those of ordinary skill in the art would have recognized that the features in question do indeed result from the metallization structure resonator in Komazaki. Furthermore, it is readily evident that the metallization structure resonator being disposed on the upper surface of the dielectric layer would have been considered as being “arranged on a common plane”. Finally, it should be noted that the capacitor electrode and coil line of applicant’s invention is a planar structure appears to correspond to the planar structure metallization structure resonator in Komazaki. Therefore, for the reasons set forth above, the examiner has indeed shown that the prior art rejection does indeed meet applicant’s claimed invention.

Claims 6, 7 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all the limitations of the base claim and any intervening claim.

Claims 11-16; 17-21 are allowable over the prior art of record.

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication should be directed to Benny Lee at telephone number 571 272 1764.

**/BENNY LEE/  
PRIMARY EXAMINER  
ART UNIT 2817**

B. Lee